

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Consortium for Pre-College Education in Greater Newark/GEAR UP

Type of Partnership: Precollege Program

Year Began: 1986

Participants Served: 533

CONTACT INFORMATION

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Partners: East Orange, Irvington, Newark School District, Rutgers University-Newark, University of Medicine and Dentistry of New Jersey

DESCRIPTION

The Consortium for Pre-College Education in Greater Newark is a collaboration between New Jersey Institute of Technology, Rutgers-Newark College of Arts and Sciences, and the University of Medicine and Dentistry of New Jersey. The program is designed to incorporate the State Core Curriculum Content Standards into our courses to enhance students' academic skills within the basic disciplines of mathematics, science, language arts and computer literacy. It is our objective to ensure that program participants are prepared for admission to and graduation from postsecondary institutions.

Elizabeth High School CAP Partnership @ NJIT

Type of Partnership: Precollege Program

Year Began: 2004

Participants Served: 6 students

CONTACT INFORMATION

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Partners: NJIT, Elizabeth High School, Conoco Phillips, Bayway Refinery, Cogen Technologies Linden Venture, Infineum USA L.P.

DESCRIPTION

The goal of this partnership is to afford Elizabeth High School students the opportunity and financial resources to attend a residential, summer program at NJIT. The University provides these students with college credit for successful completion of the courses. Urban youngsters are allowed to experience, first hand, STEM courses that are offered on a campus that specializes in technologically oriented coursework

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Engineering Prep Program

Type of Partnership: Precollege Program

Year Began: 1994

Participants Served: 25

CONTACT INFORMATION

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Partners: Newark School District

DESCRIPTION

The Engineering Preparatory Program is a nontraditional five-week program designed to help students overcome their anxiety about physics and mathematics, the cornerstones of the engineering curriculum. Engineering Prep will help prepare students to succeed in high school advanced mathematics and physics courses. Through classroom discussions, lectures, lab experiments, demonstrations, projects and field trips, participants will learn advanced mathematics, geometry, trigonometry and precalculus/calculus, physics, engineering principles, higher level problem-solving strategies, computer programming and applications, and written and oral communications. Students will also receive preparation training for the SAT exam.

Explore Careers in Technology and Engineering - EXCITE

Type of Partnership: Precollege Program

Year Began: 2003

Participants Served: 25

CONTACT INFORMATION

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Partners: Newark School District

DESCRIPTION

Explore Careers in Technology and Engineering (EXCITE) is designed to encourage post-seventh-grade students to learn about careers in technology and engineering. Students participate in a series of laboratory modules in environmental engineering, aeronautical engineering, chemical engineering, biomedical engineering and computer science.

Students also receive test preparation training for the Grade Eight Proficiency Assessment (GEPA) in language arts, mathematics, and science through nontraditional, innovative methodologies, techniques and strategies that will help students become "smarter test takers." Through classroom work, activities, workshops and field trips, participants will enrich their computer, mathematics, science and communications skills while increasing their critical-thinking and problem-solving abilities.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

FIRST Robotics Collaborative with Newark Public Schools

Type of Partnership: Build Interest in a Specific Discipline - Engineering and Engineering Technology

Year Began: 2002

Participants Served: 260 students and teachers

CONTACT INFORMATION

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Partners: NJ/NYC Regional FIRST, Newark Public Schools, New Jersey Commission on Higher Education

DESCRIPTION

New Jersey Institute of Technology has partnered with NJ/NYC FIRST Regional Office and Newark Public Schools to encourage and prepare Newark students, in grades 6-12, to pursue further studies and careers in scientific and technical fields. The objective is to enhance science, technology, engineering, and mathematics classroom instruction and student performance through the preparation for the US For Inspiration and Recognition in Science and Technology (FIRST) LEGO League Tournament and FIRST Robotics Competition. This is a national pre-engineering partnership. The program provides robotics technical assistance through site visits to Newark Public School's middle school teams; facilitates Saturday Help Clinics, staffs a Virtual Help Desk and local tournament conducted on campus; and referees at the district's local tournament at NJIT

ICHIME

Type of Partnership: Precollege Program

Year Began: 1980

Participants Served: 24

CONTACT INFORMATION

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Partners: Passaic School District, Essex School District, Union School District

DESCRIPTION

The Introduction to Chemical Industry for Minorities in Engineering (ICHIME) program is a four-week project designed to give post-eighth-grade minority students an opportunity to increase their understanding, awareness, and participation in the fields of chemistry and chemical engineering. The program includes formal classroom work, laboratory activities, projects, seminar sessions, and field trips. Participants learn about chemistry and chemical engineering, environmental science, computer programming, and applications.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Newark Public Schools at the Pre-college Academy @ NJIT

Type of Partnership: College Credits for High School Students

Year Began: 1998

Participants Served: 20 students

CONTACT INFORMATION

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Partners: Newark Public Schools, NJIT

DESCRIPTION

The goal of the program is to provide Newark high school students the opportunity and financial resources necessary to take college courses at NJIT. NJIT provides these students with college credit for successful completion of the courses. Urban youngsters are allowed to experience, first hand, STEM courses that are offered on a campus that specializes in technologically oriented coursework.

NJIT/GEAR-UP Partnership Program

Type of Partnership: Precollege Program

Year Began: 1999

Participants Served: 324

CONTACT INFORMATION

Mr. Anthony Robinson, Director, GEAR UP Partnership Program

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Partners: Camden Middle Technology School, West Side High School, The Newark Public School District, The New Jersey Department of Corrections, The New Jersey Community Resource Initiative

DESCRIPTION

The GEAR-UP Partnership goal is to provide its students with academic enrichment skills and motivation needed to complete middle school, prepare for college preparatory coursework in high school, and successfully attend post-secondary institutions. In addition, the GEAR-UP Partnership collaborates with parents, teachers, administrators, and community partners, for systemic change and improvement in curriculum, instruction and programming.

During the summer and the academic year services are provided to the students including standardized test preparation, academic enrichment programs, career guidance, academic counseling, tutorials, mentoring, and referrals to other services. To support systemic change, the project also provides parent and teacher workshops, as well as attends School Leadership Council meetings.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Pre-college Academy

Type of Partnership: Precollege Program

Year Began: 1989

Participants Served: 60

CONTACT INFORMATION

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DESCRIPTION

The Pre-college Academy at NJIT is an academic year program for high-ability high school students who want to get a jump on their college careers. The Academy is designed for participants to earn college credits in customized Saturday classes taught by faculty who have been recognized for their commitment to teaching excellence. At the end of the Academy, grades are recorded on an NJIT transcript. Course credits can be applied toward an undergraduate degree at NJIT and at most other colleges and universities.

Pre-Engineering Program

Type of Partnership: Precollege Program

Year Began: 1983

Participants Served: 125

CONTACT INFORMATION

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Partners: various school in Essex County

DESCRIPTION

The Pre-Engineering Program (PrEP) is a four-week project designed to provide post-sixth-grade students with an introduction to various disciplines in engineering. This program gives students an opportunity to enhance their mathematics, science, communications, and technological academic achievement, develop problem-solving and critical-thinking skills, and learn about careers in engineering, science and technology. Through classroom discussions, hands-on laboratory experimentation, computer activities, and field trips, participants are introduced to engineering concepts and applications to everyday life.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Professional Development Program

Type of Partnership: Curriculum Development

Year Began: 1996

Participants Served: 120 - 150

CONTACT INFORMATION

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Partners: NJIT, NPS

DESCRIPTION

The purpose of this program is to provide workshops that will improve and enhance teachers' skills and knowledge in preparing standards-based lessons that will help their students achieve the skills and knowledge defined by the NJ Core Curriculum Content Standards; and to improve and enhance teachers' skills and knowledge to help their students understand and use the tools of measurement important in the study of science and engineering. The program provides professional development workshops during the summer and academic year.

Project GRAD Summer Institute at NJIT

Type of Partnership: Precollege Program

Year Began: 1998

Participants Served: 75

CONTACT INFORMATION

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Partners: Malcolm X. Shabazz High School, Central High School

DESCRIPTION

The New Jersey Institute of Technology (NJIT) is the host site for the Project GRAD 2004 program for Newark's Central High School and Malcolm X. Shabazz rising 10th-grade students. There are approximately 50 participants chosen from among the students who select the "Engineering Academy" track at Central and those who are considering engineering and science as career goals. The highlight of the NJIT program is a one-week residential experience at the New Jersey Marine Sciences Consortium at their site at Sandy Hook, NJ. Students stay at the Monmouth University dormitories.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Project Lead The Way

Type of Partnership: Build Interest in a Specific Discipline - Engineering and Engineering Technology

Year Began: 2002

Participants Served: 900-1,200 students and teachers

CONTACT INFORMATION

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Partners: National Office of PLTW, NJ Commission on Higher Education, School Districts & Schools

DESCRIPTION

Project Lead The Way® (PLTW) is a national pre-engineering partnership. The program goal is to increase the academic preparation of secondary students interested in engineering and engineering technology at the post secondary level. NJIT serves as the NJ Affiliate by providing information, professional development and support to perspective and participating schools throughout the state.

Middle school students are introduced to technology through the application of the engineering design process. High school students select year-long courses designed to strengthen problem-solving, communication and team building skills; apply the engineering design process; broaden scientific methodology; understand technological systems; and demonstrate mathematics principles.

Talent Search

Type of Partnership: Precollege Program

Year Began: 1991

Participants Served: 1000

CONTACT INFORMATION

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Partners: Newark Public Schools

DESCRIPTION

Program Services (Academic):

Remedial Instruction, Computer Skills Training, Study Skills Training, Reading/Writing Instruction, Math/Science Instruction, Critical Thinking Skill Development, Grade & Attendance Monitoring

Program Services (Other):

Social Skills Development/Confidence Building, Leadership Development, Campus Visits & Tours, College Fairs, College Awareness, Career Counseling, Mentoring, Personal Counseling, Cultural Activities

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

The Algebra Prep Program

Type of Partnership: Precollege Program

Year Began: 1999

Participants Served: 25

CONTACT INFORMATION

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Partners: Newark School District

DESCRIPTION

The Algebra Prep Program is a four-week preparatory program for students entering the 8th or 9th grade who will be enrolling in Algebra I. The program is design to prepare these students to successfully complete Algebra I, and encourage them to choose advanced mathematics and college preparatory courses in high school. AP academic curricula are designed to help students overcome math anxiety by providing participants with opportunities to master Algebra concepts and higher-level problem-solving skills. The structure of the program includes classroom discussions and lectures, projects, portfolio assignments, homework, learning circles, tests, and field trips. Participants will learn Algebra I, communication skills, computer applications, and receive PSAT exam preparation. Problem-solving skills are stressed throughout the program, allowing the students to feel confident in their abilities to make decisions, while encouraging them to attain their academic potential through hands-on projects related to scientific and engineering disciplines. Students work in teams in an effort to increase group dynamic skills.

The Experimental Math, Science and Communications Program

Type of Partnership: Precollege Program

Year Began: 1984

Participants Served: 25

CONTACT INFORMATION

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Partners: Newark School District

DESCRIPTION

The EMSCP project is a four-week program designed to enrich students' mathematics and science backgrounds while increasing their critical thinking and problem-solving abilities. Through classroom work, hands-on lab experimentation and constructive activities, workshops, and field trips, participants will learn to focus on relationships between mathematical concepts and their applications in science and everyday life. The structure of the program includes classroom discussion, lectures, projects, portfolio assignments, homework, study groups, rubric assessments, tests, and field trips. Academic curricula provide students with opportunities to master higher-level problem-solving skills in mathematics, science and technology, learn about computer science and engineering principles, and become prepared and motivated to choose mathematics, science, and technology college preparatory courses in high school.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

The Perth Amboy Scholars (PAS) @ NJIT

Type of Partnership: Precollege Program

Year Began: 2003

Participants Served: 50 students

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Partners: NJIT, Perth Amboy Public Schools

DESCRIPTION

The goal of the Perth Amboy Scholars Program (PAS) @ NJIT is to increase the number of urban students pursuing and successfully completing careers in science, technology, engineering and mathematical (STEM) fields.

This goal will be accomplished by: enhancing students' mathematics and science achievement while developing their problem solving & critical thinking skills; maintaining students' interest in STEM fields during the secondary school years by encouraging high school students to take college courses for college credit in STEM subjects; encouraging students to learn about careers and pursue studies in STEM areas; and promoting students' healthy self-esteem and positive self-efficacy, inspiring feelings of competency while challenging their fear of failure.

Student instruction in environmental science, engineering, mathematics, chemistry, computer applications, and language arts is provided through classroom discussions, lectures, laboratory experiments, projects and field trips in the summer (New Jersey Core Curriculum Standards). They have structured daily athletic activities to promote team-building and reinforce classroom principles of teamwork.

Union City Scholars @ NJIT

Type of Partnership: College Credits for High School Students

Year Began: 1992

Participants Served: 236 students

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Partners: Union City Board of Education, NJIT

DESCRIPTION

The program provides student instruction in engineering, mathematics, chemistry, computer applications, and language arts through classroom discussions, lectures, laboratory experiments, projects and field trips in the summer (New Jersey Core Curriculum Standards). They have structured daily athletic activities to promote team-building and reinforce classroom principles of teamwork. In addition, students receive college credit for college courses; letters of recommendation; financial aid; and academic tutoring. Urban youngsters are allowed to experience, first hand, STEM courses that are offered on a campus that specializes in technologically oriented coursework

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Upward Bound

Type of Partnership: Precollege Program

Year Began: 1989

Participants Served: 60

CONTACT INFORMATION

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Web Site: www.njit.edu/precollege

Partners: Newark Public Schools

DESCRIPTION

The Upward Bound Program at New Jersey Institute of Technology is a free program funded by the U.S. Department of Education. The program is designed to a) assist and motivate students to succeed and graduate from high school, and b) prepare students to enroll and complete a postsecondary education of their choice. It is our goal to encourage students to pursue careers in the science and technological fields. We offer academic instruction and tutorial; personal counseling; college planning and placement; financial advising; educational, cultural and recreational activities; workshops and seminars; and field trips.

Upward Bound Math/Science

Type of Partnership: Precollege Program

Year Began: 1991

Participants Served: 50

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DESCRIPTION

Each summer, we accept students from New Jersey, New York, Puerto Rico and the Virgin Islands. The highlights of our program are the 5-week summer residential program and our faculty mentoring project. During the school year, we have follow-up activities for local students.

New Jersey Institute of Technology

NJ Higher Education Sector: Public Research University

Urban Civil Engineering Summer Institute

Type of Partnership: Precollege Program

Year Began: 1971

Participants Served: 25

CONTACT INFORMATION

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Partners: area high schools in Newark

DESCRIPTION

The Urban Civil Summer Institute (UCESI) is a five-week program designed to provide post-ninth-grade students with a unique exposure to the profession of civil engineering. Students are introduced to engineering through challenging classroom and laboratory activities. Participants learn about principles of engineering, mathematics, computer programming and applications, transportation, urban planning and design, and communications.

Women in Engineering & Technology Initiative-FEMME Program at NJIT

Type of Partnership: Precollege Program

Year Began: 1983

Participants Served: 125

CONTACT INFORMATION

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Partners: area schools in Newark

DESCRIPTION

The Women in Engineering and Technology Initiative-FEMME Program is a four-week program designed to provide post-fourth through tenth-grade girls with opportunities to enhance their mathematics and science academic achievement, develop their problem-solving and critical thinking skills, promote their self-esteem and self-confidence, and encourage them to choose careers in scientific and technological fields in which women are traditionally underrepresented.

The program provides an intensive four-week summer component for each of five different groups of female students and will include classroom discussions, lectures, laboratory experiments and demonstrations, projects, and field trips.
